



Complete Summary

TITLE

Childhood immunization status: percentage of enrolled children who had four diphtheria, tetanus, and acellular pertussis (DTaP), three injectable polio virus (IPV), one measles, mumps, and rubella (MMR), two haemophilus influenza type B (HiB), three hepatitis B (HepB), one chicken pox vaccination (VZV), four pneumococcal conjugate (PCV) vaccinations, two hepatitis A (HepA) vaccinations, receive the required number of rotavirus (RV) vaccinations (two doses or three doses, depending on which vaccine is administered), and two influenza vaccinations by their second birthday (combination #10).

SOURCE(S)

National Committee for Quality Assurance (NCQA). HEDIS® 2010: Healthcare Effectiveness Data & Information Set. Vol. 1, Narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2009 Jul. 90 p.

National Committee for Quality Assurance (NCQA). HEDIS® 2010: Healthcare Effectiveness Data & Information Set. Vol. 2, Technical Specifications. Washington (DC): National Committee for Quality Assurance (NCQA); 2009 Jul. 417 p.

Measure Domain

PRIMARY MEASURE DOMAIN

Process

The validity of measures depends on how they are built. By examining the key building blocks of a measure, you can assess its validity for your purpose. For more information, visit the [Measure Validity](#) page.

SECONDARY MEASURE DOMAIN

Does not apply to this measure

Brief Abstract

DESCRIPTION

For Childhood Immunization Status (CIS), nine combination rates are calculated, as well as a rate for each of the ten individual vaccines. This measure (combination #10) is used to assess the percentage of enrolled children who turned two years of age during the measurement year who were continuously

enrolled for 12 months prior to the child's second birthday and who had four diphtheria, tetanus, and acellular pertussis (DTaP), three injectable polio virus (IPV), one measles, mumps, and rubella (MMR), two haemophilus influenza type B (HiB), three hepatitis B (HepB), one chicken pox vaccination (VZV), four pneumococcal conjugate (PCV) vaccinations, two hepatitis A (HepA) vaccinations, receive the required number of rotavirus (RV) vaccinations (two doses or three doses, depending on which vaccine is administered), and two influenza vaccinations by their second birthday.

See the following related National Quality Measures Clearinghouse (NQMC) summaries of the National Committee for Quality Assurance (NCQA) measures:

- [Childhood immunization status: percentage of enrolled children who had four diphtheria, tetanus, and acellular pertussis \(DTaP\), three injectable polio virus \(IPV\), one measles, mumps, and rubella \(MMR\), two haemophilus influenza type B \(HiB\), three hepatitis B \(HepB\) and one chicken pox vaccination \(VZV\) by their second birthday \(combination #2\).](#)
- [Childhood immunization status: percentage of enrolled children who had four diphtheria, tetanus, and acellular pertussis \(DTaP\), three injectable polio virus \(IPV\), one measles, mumps, and rubella \(MMR\), two haemophilus influenza type B \(HiB\), three hepatitis B \(HepB\), one chicken pox vaccination \(VZV\) and four pneumococcal conjugate \(PCV\) vaccinations by their second birthday \(combination #3\).](#)
- [Childhood immunization status: percentage of enrolled children who had four diphtheria, tetanus, and acellular pertussis \(DTaP\), three injectable polio virus \(IPV\), one measles, mumps, and rubella \(MMR\), two haemophilus influenza type B \(HiB\), three hepatitis B \(HepB\), one chicken pox vaccination \(VZV\), four pneumococcal conjugate \(PCV\) vaccinations, and two hepatitis A \(HepA\) vaccinations by their second birthday \(combination #4\).](#)
- [Childhood immunization status: percentage of enrolled children who had four diphtheria, tetanus, and acellular pertussis \(DTaP\), three injectable polio virus \(IPV\), one measles, mumps, and rubella \(MMR\), two haemophilus influenza type B \(HiB\), three hepatitis B \(HepB\), one chicken pox vaccination \(VZV\), four pneumococcal conjugate \(PCV\) vaccinations, and receive the required number of rotavirus \(RV\) vaccinations \(two doses or three doses, depending on which vaccine is administered\) by their second birthday \(combination #5\).](#)
- [Childhood immunization status: percentage of enrolled children who had four diphtheria, tetanus, and acellular pertussis \(DTaP\), three injectable polio virus \(IPV\), one measles, mumps, and rubella \(MMR\), two haemophilus influenza type B \(HiB\), three hepatitis B \(HepB\), one chicken pox vaccination \(VZV\), four pneumococcal conjugate \(PCV\) vaccinations, and two influenza vaccinations by their second birthday \(combination #6\).](#)
- [Childhood immunization status: percentage of enrolled children who had four diphtheria, tetanus, and acellular pertussis \(DTaP\), three injectable polio virus \(IPV\), one measles, mumps, and rubella \(MMR\), two haemophilus influenza type B \(HiB\), three hepatitis B \(HepB\), one chicken pox vaccination \(VZV\), four pneumococcal conjugate \(PCV\) vaccinations, two hepatitis A vaccinations \(HepA\), and receive the required number of rotavirus \(RV\) vaccinations \(two doses or three doses, depending on which vaccine is administered\) by their second birthday \(combination #7\).](#)
- [Childhood immunization status: percentage of enrolled children who had four diphtheria, tetanus, and acellular pertussis \(DTaP\), three injectable polio virus](#)

- [\(IPV\), one measles, mumps, and rubella \(MMR\), two haemophilus influenza type B \(HiB\), three hepatitis B \(HepB\), one chicken pox vaccination \(VZV\), four pneumococcal conjugate \(PCV\) vaccinations, two hepatitis A \(HepA\) vaccinations, and two influenza vaccinations by their second birthday \(combination #8\).](#)
- [Childhood immunization status: percentage of enrolled children who had four diphtheria, tetanus, and acellular pertussis \(DTaP\), three injectable polio virus \(IPV\), one measles, mumps, and rubella \(MMR\), two haemophilus influenza type B \(HiB\), three hepatitis B \(HepB\), one chicken pox vaccination \(VZV\), four pneumococcal conjugate \(PCV\) vaccinations, receive the required number of rotavirus \(RV\) vaccinations \(two doses or three doses, depending on which vaccine is administered\), and two influenza vaccinations by their second birthday \(combination #9\).](#)

Note from the National Quality Measures Clearinghouse (NQMC): For this measure, there are both Administrative and Hybrid Specifications. This NQMC measure summary is based on the Administrative specification. Refer to the original measure documentation for details pertaining to the Hybrid specification.

RATIONALE

A basic method for prevention of serious illness is immunization. Childhood immunizations help prevent serious illnesses such as polio, tetanus and hepatitis. Vaccines are a proven way to help a child stay healthy and avoid the potentially harmful effects of childhood diseases like mumps and measles. Even preventing "mild" diseases saves hundreds of lost school days and work days, and millions of dollars.

Immunizations are one of the safest and most effective ways to protect children from potentially serious childhood diseases. Although many infants and toddlers have received all recommended vaccines by two years of age, many under-immunized children remain, leaving the potential for future outbreaks of disease. Despite established guidelines and well-known benefits of vaccination, in 2007 nearly one-quarter of children 19 to 35 months still had not received recommended immunizations.

PRIMARY CLINICAL COMPONENT

Immunization; diphtheria; tetanus; acellular pertussis; polio; measles; mumps; rubella; haemophilus influenza type B; hepatitis B; varicella zoster virus (chicken pox); pneumococcal conjugate; hepatitis A; rotavirus; influenza

DENOMINATOR DESCRIPTION

Enrolled children who turn two years of age during the measurement year (see the "Description of Case Finding" and the "Denominator Inclusions/Exclusions" fields in the Complete Summary)

NUMERATOR DESCRIPTION

Children who received four diphtheria, tetanus, and acellular pertussis (DTaP), three injectable polio virus (IPV), one measles, mumps, and rubella (MMR), two

haemophilus influenza type B (HiB), three hepatitis B (HepB), one chicken pox vaccination (VZV), four pneumococcal conjugate (PCV) vaccinations, two hepatitis A (HepA) vaccinations, receive the required number of rotavirus (RV) vaccinations (two doses or three doses, depending on which vaccine is administered), and two influenza vaccinations on or before the child's second birthday (combination #10) (see the related "Numerator Inclusions/Exclusions" field in the Complete Summary)

Evidence Supporting the Measure

EVIDENCE SUPPORTING THE CRITERION OF QUALITY

- A clinical practice guideline or other peer-reviewed synthesis of the clinical evidence
- A formal consensus procedure involving experts in relevant clinical, methodological, and organizational sciences

NATIONAL GUIDELINE CLEARINGHOUSE LINK

- [1\) General recommendations on immunization: recommendations of the Advisory Committee on Immunization Practices \(ACIP\). 2\) Update: recommendations from the Advisory Committee on Immunization Practices \(ACIP\) regarding administration of combination MMRV vaccine.](#)

Evidence Supporting Need for the Measure

NEED FOR THE MEASURE

Unspecified

State of Use of the Measure

STATE OF USE

Current routine use

CURRENT USE

Accreditation
Decision-making by businesses about health-plan purchasing
Decision-making by consumers about health plan/provider choice
External oversight/Medicaid
External oversight/State government program
Internal quality improvement

Application of Measure in its Current Use

CARE SETTING

Managed Care Plans

PROFESSIONALS RESPONSIBLE FOR HEALTH CARE

Measure is not provider specific

LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Single Health Care Delivery Organizations

TARGET POPULATION AGE

Children who turned two years or age during the measurement year

TARGET POPULATION GENDER

Either male or female

STRATIFICATION BY VULNERABLE POPULATIONS

Unspecified

Characteristics of the Primary Clinical Component

INCIDENCE/PREVALENCE

See the "Rationale" field.

ASSOCIATION WITH VULNERABLE POPULATIONS

Children

EVIDENCE FOR ASSOCIATION WITH VULNERABLE POPULATIONS

What would happen if we stopped vaccinations?. [internet]. Atlanta (GA): Centers for Disease Control and Prevention (CDC); 2007 Jun 12[accessed 2007 Sep 12]. [5 p].

BURDEN OF ILLNESS

Measles is one of the most infectious diseases in the world. More than 90 percent of people who are not immune will get the virus if they are exposed to it. Three out of every 1,000 cases of measles results in death.

EVIDENCE FOR BURDEN OF ILLNESS

Facts for parents about vaccine safety. [internet]. American Academy of Pediatrics; [accessed 2010 Jan 22].

What would happen if we stopped vaccinations?. [internet]. Atlanta (GA): Centers for Disease Control and Prevention (CDC); 2007 Jun 12[accessed 2007 Sep 12]. [5 p].

UTILIZATION

Unspecified

COSTS

Unspecified

Institute of Medicine National Healthcare Quality Report Categories

IOM CARE NEED

Staying Healthy

IOM DOMAIN

Effectiveness

Data Collection for the Measure

CASE FINDING

Users of care only

DESCRIPTION OF CASE FINDING

Enrolled children who turn two years of age during the measurement year and who were continuously enrolled for 12 months prior to the child's second birthday with no more than one gap in enrollment of up to 45 days (commercial) or not more than a one-month gap in coverage (Medicaid) during the continuous enrollment period

DENOMINATOR SAMPLING FRAME

Enrollees or beneficiaries

DENOMINATOR INCLUSIONS/EXCLUSIONS

Inclusions

Enrolled children who turn two years of age during the measurement year

Exclusions

Children who had a contraindication for a specific vaccine may be excluded from the denominator. An organization that excludes contraindicated children may do so only if the administrative data do not indicate that the contraindicated

immunization was rendered. The exclusion must have occurred on or by the second birthday. Organizations should look for exclusions as far back as possible in the member's history and use the codes in Table CIS-B of the original measure documentation to identify allowable exclusions.

RELATIONSHIP OF DENOMINATOR TO NUMERATOR

All cases in the denominator are equally eligible to appear in the numerator

DENOMINATOR (INDEX) EVENT

Patient Characteristic

DENOMINATOR TIME WINDOW

Time window precedes index event

NUMERATOR INCLUSIONS/EXCLUSIONS

Inclusions

Children who received four diphtheria, tetanus, and acellular pertussis (DTaP), three injectable polio virus (IPV), one measles, mumps, and rubella (MMR), two haemophilus influenza type B (HiB), three hepatitis B (HepB), one chicken pox vaccination (VZV), four pneumococcal conjugate (PCV) vaccinations, two hepatitis A (HepA) vaccinations, receive the required number of rotavirus (RV) vaccinations (two doses or three doses, depending on which vaccine is administered), and two influenza vaccinations on or before the child's second birthday (combination #10)

For MMR, HepB, VZV and HepA count any of the following:

- Evidence of the antigen or combination vaccine, *or*
- Documented history of the illness, *or*
- A seropositive test result for each antigen

For DTaP, IPV, HiB, PCV, RV and influenza count *only* the following:

- Evidence of the antigen or combination vaccine

For combination vaccinations that require more than one antigen (i.e., DTaP and MMR), the organization must find evidence of all the antigens.

DTaP: At least four DTaP vaccinations with different dates of service on or before the child's second birthday.

IPV: At least three IPV vaccinations, with different dates of service on or before the child's second birthday.

MMR: At least one MMR vaccination, with a date of service falling on or before the child's second birthday.

HiB: At least two HiB vaccinations, with different dates of service on or before the child's second birthday.

Note: Given the current HiB shortage, the CDC recommends that two HiB vaccines be received.

HepB: At least three HepB vaccinations, with different dates of service on or before the child's second birthday.

VZV: At least one VZV, with a date of service falling on or between the child's second birthday.

Pneumococcal conjugate: At least four pneumococcal conjugate vaccinations, with different dates of service on or before the child's second birthday.

HepA: Two HepA vaccinations, with different dates of service on or before the child's second birthday.

RV: The child must receive the required number of rotavirus vaccinations (two doses or three doses, depending on which vaccine is administered), on different dates of service on or before the child's second birthday.

Note: The number of rotaviruses varies based on which vaccine is given. There is a two-dose schedule and a three-dose schedule. The vaccines are identified by different Current Procedure Terminology (CPT) codes.

Influenza: Two influenza vaccinations, with different dates of service on or before the child's second birthday.

Refer to Table CIS-A in the original measure documentation for codes to identify childhood immunizations.

Exclusions

DTaP: Do not count any vaccination administered prior to 42 days after birth.

IPV: IPV administered prior to 42 days after birth cannot be counted.

HiB: HiB administered prior to 42 days after birth cannot be counted.

PCV: Do not count any vaccination administered prior to 42 days after birth.

RV: Do not count any vaccination administered prior to 42 days after birth.

Influenza: Do not count any vaccination administered prior to six months after birth.

MEASURE RESULTS UNDER CONTROL OF HEALTH CARE PROFESSIONALS, ORGANIZATIONS AND/OR POLICYMAKERS

The measure results are somewhat or substantially under the control of the health care professionals, organizations and/or policymakers to whom the measure applies.

NUMERATOR TIME WINDOW

Fixed time period

DATA SOURCE

Administrative data
Medical record

LEVEL OF DETERMINATION OF QUALITY

Individual Case

PRE-EXISTING INSTRUMENT USED

Unspecified

Computation of the Measure**SCORING**

Rate

INTERPRETATION OF SCORE

Better quality is associated with a higher score

ALLOWANCE FOR PATIENT FACTORS

Analysis by subgroup (stratification on patient factors, geographic factors, etc.)

DESCRIPTION OF ALLOWANCE FOR PATIENT FACTORS

This measure requires that separate rates be reported for Medicaid and commercial product lines.

STANDARD OF COMPARISON

External comparison at a point in time
External comparison of time trends
Internal time comparison

Evaluation of Measure Properties**EXTENT OF MEASURE TESTING**

Unspecified

Identifying Information

ORIGINAL TITLE

Childhood immunization status (CIS).

MEASURE COLLECTION

[HEDIS® 2010: Health Plan Employer Data and Information Set](#)

MEASURE SET NAME

[Effectiveness of Care](#)

MEASURE SUBSET NAME

[Prevention and Screening](#)

DEVELOPER

National Committee for Quality Assurance

FUNDING SOURCE(S)

Unspecified

COMPOSITION OF THE GROUP THAT DEVELOPED THE MEASURE

National Committee for Quality Assurance's (NCQA's) Measurement Advisory Panels (MAPs) are composed of clinical and research experts with an understanding of quality performance measurement in the particular clinical content areas.

FINANCIAL DISCLOSURES/OTHER POTENTIAL CONFLICTS OF INTEREST

In order to fulfill National Committee for Quality Assurance's (NCQA's) mission and vision of improving health care quality through measurement, transparency and accountability, all participants in NCQA's expert panels are required to disclose potential conflicts of interest prior to their participation. The goal of this Conflict Policy is to ensure that decisions which impact development of NCQA's products and services are made as objectively as possible, without improper bias or influence.

ADAPTATION

Measure was not adapted from another source.

RELEASE DATE

2009 Jul

MEASURE STATUS

This is the current release of the measure.

SOURCE(S)

National Committee for Quality Assurance (NCQA). HEDIS® 2010: Healthcare Effectiveness Data & Information Set. Vol. 1, Narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2009 Jul. 90 p.

National Committee for Quality Assurance (NCQA). HEDIS® 2010: Healthcare Effectiveness Data & Information Set. Vol. 2, Technical Specifications. Washington (DC): National Committee for Quality Assurance (NCQA); 2009 Jul. 417 p.

MEASURE AVAILABILITY

The individual measure, "Childhood Immunization Status (CIS)," is published in "HEDIS® 2010. Healthcare Effectiveness Data & Information Set. Vol. 2, Technical Specifications."

For more information, contact the National Committee for Quality Assurance (NCQA) at 1100 13th Street, NW, Suite 1000, Washington, DC 20005; Telephone: 202-955-3500; Fax: 202-955-3599; Web site: www.ncqa.org.

COMPANION DOCUMENTS

The following is available:

- National Committee for Quality Assurance (NCQA). The state of health care quality 2009. Washington (DC): National Committee for Quality Assurance (NCQA); 2009. 127 p.

For more information, contact the National Committee for Quality Assurance (NCQA) at 1100 13th Street, NW, Suite 1000, Washington, DC 20005; Telephone: 202-955-3500; Fax: 202-955-3599; Web site: www.ncqa.org.

NQMC STATUS

This NQMC summary was completed by ECRI Institute on January 15, 2010.

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